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TRANSMITTAL OF APPEAL BRIEF

Docket No.
H1139.0108

In re Application of: Kenji Takeda

Application No.	Filing Date	Examiner	Group Art Unit
10/010,330	November 8, 2001	B. S. Roberts	2616

Invention: DATA COMMUNICATION SYSTEM, DATA COMMUNICATION METHOD, AND RECORDING MEDIUM WITH DATA COMMUNICATION PROGRAM RECORDED THEREON

TO THE COMMISSIONER OF PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed: June 7, 2006 .

The fee for filing this Appeal Brief is $ 500.00 .

[x] Large Entity [ ] Small Entity

[ ] A petition for extension of time is also enclosed.

The fee for the extension of time is _____ .

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[x] The Director is hereby authorized to charge any additional fees that may be required or credit any overpayment to Deposit Account No. 50-2215 .
This sheet is submitted in duplicate.

Joseph W. Ragusa

Dated: August 7, 2006

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PTO/SB/17 (01-06)
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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 500.00

Complete if Known	
Application Number	10/010,330
Filing Date	November 8, 2001
First Named Inventor	Kenji Takeda
Examiner Name	B. S. Roberts
Art Unit	2616
Attorney Docket No.	H1139.0108

METHOD OF PAYMENT (check all that apply)

☐ Check ☒ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: 50-2215 Deposit Account Name: Dickstein Shapiro LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
Application Type	**Fee ($)**	**Small Entity Fee ($)**	**Fee ($)**	**Small Entity Fee ($)**	**Fee ($)**	**Small Entity Fee ($)**	**Fees Paid ($)**
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	**Fee ($)**	**Small Entity Fee ($)**
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____	- =	_____	x _____	= _____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		**Extra Claims**	**Fee ($)**	**Fee Paid ($)**
_____	- =	_____	x _____	= _____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims

Fee ($)	**Fee Paid ($)**
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets		**Extra Sheets**		**Number of each additional 50 or fraction thereof**	**Fee ($)**	**Fee Paid ($)**
_____	- 100 =	_____	/50	_____ (round up to a whole number) x	_____	= _____

4. OTHER FEE(S) **Fees Paid ($)**

Non-English Specification, $130 fee (no small entity discount)

Other (e.g., late filing surcharge): 1402 Filing a brief in support of an appeal 500.00

SUBMITTED BY					
Signature	Joseph W. Ragusa	Registration No. (Attorney/Agent)	38,586	Telephone	(212) 277-6584
Name (Print/Type)	Joseph W. Ragusa			Date	August 7, 2006

Docket No.: H1139.0108
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Kenji Takeda

Application No.: 10/010,330 Confirmation No.: 5814

Filed: November 8, 2001 Art Unit: 2616

For: DATA COMMUNICATION SYSTEM, DATA COMMUNICATION METHOD, AND RECORDING MEDIUM WITH DATA COMMUNICATION PROGRAM RECORDED THEREON

Examiner: B. S. Roberts

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

As required under § 41.37(a), this brief is filed within two months of the Notice of Appeal filed in this case on June 7, 2006, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

08/08/2006 JADD01 00000013 10010330
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This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is:

NEC Corp.

II. RELATED APPEALS, INTERFERENCES, AND JUDICIAL PROCEEDINGS

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 15 claims pending in application.

B. Current Status of Claims

1. Claims canceled: None

2. Claims withdrawn from consideration but not canceled: None

3. Claims pending: 1-15

4. Claims allowed: None

5. Claims rejected: 1-15

C. Claims On Appeal

The claims on appeal are claims 1-15

IV. STATUS OF AMENDMENTS

The claims were most recently amended in an Amendment in Response to Non-Final Office Action filed November 18, 2005. Appellant filed an Response to Final Office Action on May 5, 2006 without amending the claims. The Examiner responded to the Response to Final Office Action in an Advisory Action mailed May 24, 2006. In the Advisory Action, the Examiner indicated that Appellant's arguments had been considered, but did not place the application in condition for allowance for the reasons indicated on the Continuation Sheet.

Accordingly, the claims enclosed herein as Appendix A incorporate the amendments indicated in the paper filed by Appellant on November 18, 2005.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the

data transmitter to the data receiver, wherein the data transmitter transmits data packets to the data receiver (e.g., via packet transmission means 14). The data receiver transmits an ACK packet (via ACK transmission processing means 221) for informing the data transmitter of the confirmation of the delivery of the received data packet, (see e.g., page 38, lines 9-23) and the data transmitter (using ACK reception processing means 13) detects the loss of the transmitted data packet based on the content of the ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out, (see e.g., page 47, lines 11-24)

The data transmitter includes: a counter (e.g., in 13 and shown, e.g., in Figure 8) for counting the number of round trips of data packets transmitted (see e.g., page 33, lines 15-18); and means for storing, (list transmission segment list, see Figure 8) for each transmitted data packet, the a relationship between the data packet and the counter value at the time of the transmission of the data packet (see e.g., page 39, line 22 to page 40, line 3; and page 47, line 25 to page 48, line 2) and, means for judging, when the stored counter value is two or more smaller than the current counter value, that the data packet corresponding to the stored counter value has been lost (see, e.g., page 45, line 20 to page 46, line 24).

Claim 3 is directed to a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the data transmitter to the data receiver. The data transmitter transmits data packets to the data receiver (e.g., via packet transmission means 14), the data receiver transmits an ACK packet (via ACK transmission processing means 222) for informing the data transmitter of the confirmation of the delivery of the received data packet, and the data transmitter detects the loss of the transmitted data packet based on the content of the

ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out (see e.g., page 47, lines 11-24).

The data transmitter includes: a counter (e.g., round trip counter of Figure 15) for counting the number of round trips of data packets transmitted; first and second tables (round trip table of Figure 15 and Transmission Segment List of Figure 15, respectively) for storing predetermined data (see, e.g., page 64, lines 7-14); means for storing, for each transmitted data packet, the relationship between the data packet and the time at the point of the transmission of the data packet in the first table (see, e.g., page 64, lines 7-10); means for storing, in the second table, for each counter value in the counter, the relationship between the counter value and the time at the point of the transmission of the first data packet after the counter has indicated the counter value (see, e.g., page 64, lines 10-14); and means for judging, when the value of the time stored in the first table is smaller than the value of the time corresponding to a counter value which is two smaller than the current counter value stored in the second table, that the data packet corresponding to the time stored in the first table has been lost (see, e.g., page 64, line 3 to page 65, line 5 and page 61, lines 5-19).

Claim 5 is directed to a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the data transmitter to the data receiver (e.g., via packet transmission means 14). The data transmitter transmits data packets to the data receiver, the data receiver transmits an ACK packet (e.g., via ACK transmission processing means 222) for informing the data transmitter of the confirmation of the delivery of the received data packet, and the data transmitter detects the loss of the transmitted data packet based on the content of the ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out (see e.g., page 47, lines 11-24).

During error control in its period between the detection of the loss of a data packet and the confirmation of the delivery of the data packet by the data transmitter, transmission flow control is carried out by a transmission window (see e.g., page 65, lines 6-13), the data transmitter functioning to release, from the transmission window, a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver during the error control, thereby rendering the released window transmittable (see e.g., page 65, lines 6-13).

Claim 6 is directed to a data communication method comprising the steps of: providing a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the data transmitter to the data receiver; transmitting data packets by the data transmitter to the data receiver (e.g., via packet transmission means 14); transmitting an ACK packet for informing, by the data receiver, the data transmitter of the confirmation of the delivery of the received data packet (via ACK transmission processing means 222); detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; and retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets (see e.g., page 47, lines 11-24). The data transmitter counts the number of round trips of data packets transmitted (using round trip counter shown, e.g., in Figure 15 and in Figure 8), and for each transmitted data packet, stores the relationship between the data packet and the counter value at the point of the transmission of the data packet (see e.g., page 39, line 22 to page 40, line 3; and page 47, line 25 to page 48, line 2), and, when the stored counter value is two or more smaller than the current counter value at that time, judges that the data packet corresponding to the stored counter value is lost (see, e.g., page 45, line 20 to page 46, line 24).

Claim 8 is directed to a data communication method comprising the steps of: providing a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the data transmitter to the data receiver; transmitting data packets by the data transmitter to the data receiver (e.g., via packet transmission means 14); transmitting, by the data receiver, an ACK packet (via ACK transmission processing means 222) for informing the data transmitter of the confirmation of the delivery of the received data packet; detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; and retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets (see e.g., page 47, lines 11-24). The data transmitter is provided with a counter (e.g., round trip counter of Figure 15) for counting the number of round trips of data packets transmitted, and first and second tables (round trip table of Figure 15 and Transmission Segment List of Figure 15, respectively) for storing predetermined data (see, e.g., page 64, lines 7-14), for each transmitted data packet, the relationship between the data packet and the time at the point of the transmission of the data packet is stored in the first table (see, e.g., page 64, lines 7-10), for each counter value in the counter, the relationship between the counter value and the time at the point of the transmission of the first data packet after the counter has indicated the counter value is stored in the second table(see, e.g., page 64, lines 10-14), and when the value of the time stored in the first table is smaller than the value of the time corresponding to a counter value which is two smaller than the current counter value stored in the second table, the data packet corresponding to the time stored in the first table is regarded as having been lost, followed by the retransmission of the data packet which has been judged to be lost (see, e.g., page 64, line 3 to page 65, line 5 and page 61, lines 5-19).

Claim 10 is directed to a data communication method comprising the steps of: providing a data communication system comprising a data transmitter (e.g., 1), a data receiver (e.g., 2), and a network (e.g., 3) for connecting the data transmitter to the data receiver (e.g., via packet transmission means 14); transmitting data packets by the data transmitter to the data receiver; transmitting, by the data receiver, an ACK packet (e.g., via ACK transmission processing means 222) for informing the data transmitter of the confirmation of the delivery of the received data packet; detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets (see e.g., page 47, lines 11-24); and performing transmission flow control by a transmission window (see e.g., page 65, lines 6-13), during error control in its period between the detection of the loss of a data packet and the confirmation of the delivery of the data packet by the data transmitter. The data transmitter functions to release, from the transmission window, a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver during the error control, and consequently renders the released window transmittable (see e.g., page 65, lines 6-13).

VI. GROUNDS OF OBJECTION TO BE REVIEWED ON APPEAL

In the final Office Action, claims 1, 3, 6 and 8 were objected to on the grounds that the limitation "for counting the number of round trips of data packets transmitted" is not supported by the specification. Claims 1-3, 5-8, 10-13 and 15 were rejected under 35 U.S.C. 103 over U.S. Patent 5,570,367 (Ayanoglu et al.) in view of the Stallings, a text book of which an excerpted section was enclosed with the final Office Action. Claims 4, 9 and 14 were rejected under 35 U.S.C. 103 over Ayanoglu et al. in view of the Stallings and further in view of U.S. Patent 6,751,209 (Hamiti et al.).

VII. ARGUMENT

Independent Claims 1, 3, 5, 6, 8 and 10

Claims 1-15 are pending. Claims 1, 3, 5, 6, 8 and 10 are the independent claims.

In the Office Action mailed February 7, 2006 (the "final Office Action"), claims 1, 3, 6 and 8 were objected to on the grounds that the limitation "for counting the number of round trips of data packets transmitted" is not supported by the specification. Appellant traverses.

The objected-to language is present in the original claims and therefore provides its own support. Moreover, it is clear from the fact that the term "round trip counter" is used throughout the specification, that "the number of round trips of data packets transmitted" refers to what is counted by the round trip counter, which is clearly defined in the specification.

The term "a round trip of a data packet" is used throughout the specification and claims to relate to the concept that a sender (e.g., transmitter) transmits a data packet to a receiver, and the receiver transmits an ACK packet to acknowledge the receipt of the transmitted data packet back to the data transmitter. Page 33, lines 15 to 21 of the specification, discloses that the data segment transmission processing means 121 and the ACK reception processing means 13 have a round trip counter (RTC) and have a transmission segment list (SSL), instead of the prior art "score board" technique. Then, as described on page 34, lines 18 to 23, a round trip counter (RTC) option field and a round trip counter echo (RTCE) option field for notification of the round trip counter value, are added to a message which is transmitted from the transmitter to the receiver or transmitted from the receiver to the transmitter.

In view of the above, the claim language, which appears in the originally filed claims, is also consistent with the description in the specification. Withdrawal of the objection is therefore respectfully requested.

In the final Office Action, claims 1-3, 5-8, 10-13 and 15 were rejected under 35 U.S.C. 103 over U.S. Patent 5,570,367 (Ayanoglu et al.) in view of Stallings, a text book of which an excerpted section was enclosed with the final Office Action. Claims 4, 9 and 14 were rejected under 35 U.S.C. 103 over Ayanoglu et al. in view of the Stallings and further in view of U.S. Patent 6,751,209 (Hamiti et al.).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

In the final Office Action, all of the independent claims were rejected on the basis of at least the combination of Ayanoglu et al. in view of Stallings.

The structure defined in claim 1 includes a counter that counts the number of round trips of data packets transmitted for determining the necessity of retransmission using the number of round trips. This is particularly useful in a data communication protocol conducting a flow process in TCP, in a case in which packets are occasionally lost. In particular, claim 1 recites, inter alia, judging, when the stored counter value is two or more smaller than the current counter value, that the data packet corresponding to the stored counter value has been lost.

Ayanoglu et al. shows an asymmetric protocol for wireless communications in which a counter counts the number of received packets for determining the initiation of a flow control process, as shown, for example, in Figure 3. In the final Office Action, the Examiner conceded that Ayanoglu et al. does not teach judging, when the stored counter value is two or more smaller than the current counter value, that the data packet corresponding to the stored counter value has been lost. However, the position was taken that Stallings teaches this feature and that it would have been obvious to combine them.

A. Stallings Teaches Away From the Use of its Sliding Window Technique in Ayanoglu et al.

The rejections based on the above-mentioned combination of references are deficient at least because the Examiner has failed to provide a legally sufficient motivation to combine Ayanoglu et al. with the cited teachings of Stallings, namely, the sliding window technique discussed as the "third alternative" at page 550 of that document.

Stallings' sliding window technique is a technique that is described as being suitable for use on a "reliable network service" and in which, whenever a sender receives an acknowledgment to a particular transport protocol data unit (TPDU), it is automatically authorized to send the succeeding 7 (when the window size is 7) TPDUs. The sending entity can send at most 7 additional TPDU's and then must stop. Stallings goes on to say:

> "***Since the underlying network service is reliable,*** the sender will not time out and retransmit. Thus, at some point, a sending transport

> entity may have a number of TPDUs outstanding for which no acknowledgment has been received. ***Since we are dealing with a reliable network,*** the sending transport entity can assume that the TPDUs will get through and that the lack of acknowledgment is a flow control tactic. ***This tactic would not work well in an unreliable network,*** since the sending transport entity would not know whether the lack of acknowledgment is due to flow control or a lost TPDU." Stallings at page 550 (Emphasis supplied).

As can be seen from this quote, the technique of Stallings that the Examiner has proposed to combine with Ayanoglu et al. is applicable to a reliable network, for the reasons set forth above by Stallings. The technique is *entirely unsuitable* for an unreliable network. In fact, the Stallings document specifically states that this technique "would not work well in an unreliable network."

Ayanoglu et al., relates to a wireless communications network, a type of network that is notoriously *unreliable*. This fact is well known to those skilled in the art. In fact, it is clearly recognized in the Background section of Ayanoglu et al. itself, which makes very clear that wireless networks are, by their nature, unreliable:

> Because wireless data connections use radio signals that are propagated in the constantly changing and somewhat unpredictable freespace environment, those connections are ***subject to high bit error rates***. Correction of these errors requires frequent data retransmissions over the wireless connection, which causes throughput degradation due to the delay incurred during the error correction process. This delay takes on added significance when one considers that most higher layer protocols for a substantial number of application processes implement error-recovery on an end-to-end basis. To make matters worse, ***unexpectedly high bit error rates cause certain widely used higher layer protocols, such as TCP/IP, to automatically initiate flow control procedures*** which further decrease throughput. Col. 1, lines 10-28 (emphasis supplied).

The extremely high occurrence of bit errors in wireless networks referred to by Ayanoglu et al. makes such networks highly unreliable.

Stallings *explicitly* teaches, in fact states, that the sliding window technique cited by the Examiner "would not work well in an unreliable network" for the reasons he delineates. Ayanoglu et al. clearly explains that wireless networks are quite unreliable. In view of the teachings, one of ordinary skill in the art would follow Stallings' warning and avoid using the sliding window technique of page 550 of Stallings in a wireless network, and certainly would have no motivation whatsoever to apply that technique in the wireless network of Ayanoglu et al. as proposed in the Final Office Action. In fact, one of ordinary skill in the art would be strongly dissuaded from making the proposed combination, in view of the explicit teaching away when the two references are taken as a whole.

In summary, Stallings clearly and explicitly teaches away from the use of the sliding windows technique in an unreliable network, and a wireless network is a leading example of an unreliable network, as is recognized in the Background section of Ayanoglu et al. For at least this reason, the proposed combination is improper and no prima facie case of obviousness has been set forth for this additional reason.

In the Continuation Sheet of the May 24, 2006 Advisory Action, the Examiner completely ignored the argument discussed above that Stallings teaches away from any combination with Ayanoglu et al. Instead, the Examiner limited his remarks to the arguments related to the expectation of success, to be discussed below.

B. There Would be no Reasonable Expectation of Success in Connection with the Proposed Combination of References

As discussed above, to support a prima facie case of obviousness based on a combination of references, there must be a reasonable expectation of success. However, as is clear from a reading of Stallings, there would not be an expectation of *success* in using the sliding window technique in a wireless network, such as that shown in Ayanoglu et al., since Stallings states that this technique "would not work well in an unreliable network," such as a wireless network. In fact, based on the quoted portion of Stallings, there would be every expectation of failure. Thus, there is no ***reasonable*** expectation of ***success***, another requirement for a prima facie case of obviousness.

In the Continuation Sheet of the Advisory Action mailed May 24, 2006, the Examiner took the position that in spite of the teachings of Stallings regarding the use of the sliding window technique in an unreliable network, there would in fact be a reasonable expectation of success.

> "Stalling[s] states that the sliding window technique 'would not work well in an unreliable network.' Stalling[s] thus teaches that there is a reasonable expectation of success since he states that utilizing the sliding window technique in an unreliable network, such as a wireless network, would work. It just would not work well." May 24, 2006 Advisory Action, Continuation Sheet.

First, an engineer designing a system for keeping track of lost packets would not consider a system that did "not work well" a *success*. Stallings states that in a reliable network, the sending transport entity can safely assume that the transport protocol data units (TPDUs) will get through, allowing it also to safely assume that a lack of acknowledgment from the receiver is a flow control tactic, and not evidence of a lost TPDU.

On the other hand, if the sliding windows technique shown at page 550 is used in an *un*reliable network, the sending transport entity would not know whether a

lack of acknowledgment is due to flow control or to a lost TPDU. This inability to be able to determine the significance of a lack of acknowledgment would not be considered a *successful* design, since the transmitter would not know how to handle unacknowledged TPDUs.

In a network designed in this manner, there would be no reasonable expectation of success at least because a receiver may be failing to acknowledge due to a failure to have received the TPDU, or as part of a flow control tactic. The transmitter would never know which.

For at least the above reasons, any combination of Stallings' sliding windows technique and any wireless network would be completely improper in an obviousness rejection at least because there would be no reasonable expectation of success.

Since each rejection in the Final Office Action relies at least in part upon this improper combination, all the rejections are untenable. It is respectfully requested that the rejections be withdrawn and the application passed to issue.

C. Even When Combined, Ayanoglu and Stallings do not Teach the Recited Counter

In applying Stallings, the Examiner stated that

> "[i]t would have been obvious to . . . modify the system and method of Ayanoglu et al. to include fixed sliding-window as taught by Stallings to retransmit a packet when the packet identification numbers stored in the status array is two or more smaller than the sequence counter because a transmission window provides for a more efficient bandwidth utilization by allowing multiple packets to be transmitted

> rather than transmitting a packet [then] waiting for the packet to be acknowledged before transmitting a subsequent packet." Final Office Action at page 4.

In view of the above, it appears that the Examiner believes that the recited counter is a counter for assigning a sequence ID to the packet for transmission. However, the recited counter is not a sequence counter for assigning the sequence ID of the packet. Rather, it is a counter for counting the number of round trips of transmitted data packets, as discussed above in relation to the Section 112 rejection. For at least this reason, even when combined, Ayanoglu et al. and Stallings fail to teach this limitation of claim 1.

Ayanoglu et al. and Stallings neither teach nor suggest the feature of claim 1 discussed above. For at least this reason, claim 1 is believed patentable over Ayanglu et al. Claims 3, 6 and 8 recite similar features and are believed to distinguish over Ayanoglu for similar reasons.

Independent claim 5 recites, inter alia, that the data transmitter releases, from the transmission window, a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver during the error control, thereby rendering the released window transmittable.

This feature is neither taught nor suggested in the cited references. In particular, as understood by Appellant, in the cited prior art, and generally in window flow controls based on TCP, it is the window itself for which delivery confirmation has been made that is released. On the other hand, in claim 5, what is released is a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver

during the error control. Appellant has found no teaching or suggestion of this feature in any of the cited references. Claim 10, a method claim substantially corresponding to claim 5, is believed patentable for substantially similar reasons.

For at least this additional reason, the independent claims are believed clearly patentable over the cited references.

Dependent Claims 2, 4, 7, 9 and 11-15

Claims 2, 4, 7, 9 and 11-15 are dependent on one or another of the independent claims discussed above and are believed patentable for at least the same reasons as their respective base claims.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A. As indicated above, the claims in Appendix A include the amendments filed by Appellant on November 18, 2005.

IX. EVIDENCE

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

X. RELATED PROCEEDINGS

No related proceedings are referenced in II. above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.

Dated: August 4, 2006

Respectfully submitted,

By _____

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/010,330

1. (Previously Presented) A data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver, wherein said data transmitter transmits data packets to the data receiver, said data receiver transmits an ACK packet for informing the data transmitter of the confirmation of the delivery of the received data packet, and said data transmitter detects the loss of the transmitted data packet based on the content of the ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out,

said data transmitter comprising:

a counter for counting the number of round trips of data packets transmitted; and

means for storing, for each transmitted data packet, a relationship between the data packet and the counter value at the time of the transmission of the data packet and,

means for judging, when the stored counter value is two or more smaller than the current counter value, that the data packet corresponding to the stored counter value has been lost.

2. (Previously Presented) The data communication system according to claim 1, wherein

the data transmitter further comprises means for incorporating, as round trip notification information, the current counter value into the data packet transmitted,

the data receiver further comprises means for incorporating, as round trip response information, the counter value, that was incorporated into the data packet transmitted as the round trip notification information in the received data packet, into an ACK packet for the received data packet, and

the data transmitter further comprises means for increasing the counter value by one in the case where the value contained as the round trip response information in the received ACK packet is equal to said counter value.

3. (Previously Presented) A data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver, wherein said data transmitter transmits data packets to the data receiver, said data receiver transmits an ACK packet for informing the data transmitter of the confirmation of the delivery of the received data packet, and said data transmitter detects the loss of the transmitted data packet based on the content of the ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out,

said data transmitter comprising:

a counter for counting the number of round trips of data packets transmitted;

first and second tables for storing predetermined data;

means for storing, for each transmitted data packet, the relationship between the data packet and the time at the point of the transmission of the data packet in the first table;

means for storing, in the second table, for each counter value in the counter, the relationship between the counter value and the time at the point of the transmission of the first data packet after the counter has indicated said counter value; and

means for judging, when the value of the time stored in the first table is smaller than the value of the time corresponding to a counter value which is two smaller than the current counter value stored in the second table, that the data packet corresponding to the time stored in the first table has been lost.

4. (Original) The data communication system according to claim 3, wherein

the data transmitter further comprises means for incorporating, as time notification information, the current time into the data packet transmitted,

the data receiver further comprises means for incorporating, as time response information, the time, contained as the time notification information in the received data packet, into an ACK packet for the received data packet, and

the data transmitter further comprises means for increasing the counter value by one in the case where the time contained as the time response information in the received ACK packet is equal to or larger than the current time value stored, in the second table, in the relationship with the current counter value.

5. (Original) A data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver, wherein said data transmitter transmits data packets to the data receiver, said data receiver transmits an ACK packet for informing the data transmitter of the confirmation of the delivery of the received data packet, and said data transmitter detects the loss of the transmitted data packet based on the content of the ACK packet and retransmits the data packet, which has been detected to be lost, whereby error control of data packets is carried out and, wherein, during error control in its period between the detection of the loss of a data packet and the confirmation of the delivery of the data packet by the data transmitter, transmission flow control is carried out by a transmission window,

said data transmitter functioning to release, from the transmission window, a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver during the error control, thereby rendering the released window transmittable.

6. (Previously Presented) A data communication method comprising the steps of: providing a data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver; transmitting data packets by the data transmitter to the data receiver; transmitting an ACK packet for informing, by the data receiver, the data transmitter of the confirmation of the delivery of the received data packet; detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; and retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets, wherein

the data transmitter counting the number of round trips of data packets transmitted, and

for each transmitted data packet, stores the relationship between the data packet and the counter value at the point of the transmission of the data packet, and, when the stored counter value is two or more smaller than the current counter value at that time, judges that the data packet corresponding to the stored counter value is lost.

7. (Previously Presented) The data communication method according to claim 6, wherein

the data transmitter incorporates, as round trip notification information, the current counter value into the data packet transmitted,

the data receiver incorporates, as round trip response information, the counter value, that was incorporated into the data packet transmitted as the round trip notification information in the received data packet, into an ACK packet for the received data packet, and

the data transmitter increases the counter value by one in the case where the value contained as the round trip response information in the received ACK packet is equal to said counter value.

8. (Original) A data communication method comprising the steps of: providing a data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver; transmitting data packets by the data transmitter to the data receiver; transmitting, by the data receiver, an ACK packet for informing the data transmitter of the confirmation of the

delivery of the received data packet; detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; and retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets, wherein

the data transmitter is provided with a counter for counting the number of round trips of data packets transmitted, and first and second tables for storing predetermined data,

for each transmitted data packet, the relationship between the data packet and the time at the point of the transmission of the data packet is stored in the first table,

for each counter value in the counter, the relationship between the counter value and the time at the point of the transmission of the first data packet after the counter has indicated said counter value is stored in the second table, and

when the value of the time stored in the first table is smaller than the value of the time corresponding to a counter value which is two smaller than the current counter value stored in the second table, the data packet corresponding to the time stored in the first table is regarded as having been lost, followed by the retransmission of the data packet which has been judged to be lost.

9. (Original) The data communication method according to claim 8, wherein

the data transmitter incorporates, as time notification information, the time at that point into the data packet transmitted,

the data receiver incorporates, as time response information, the time, contained as the time notification information in the received data packet, into an ACK packet for the received data packet, and

the data transmitter increases the counter value by one in the case where the time contained as the time response information in the received ACK packet is equal to or larger than the time stored in the relationship with the current counter value stored in the second table.

10. (Original) A data communication method comprising the steps of: providing a data communication system comprising a data transmitter, a data receiver, and a network for connecting the data transmitter to the data receiver; transmitting data packets by the data transmitter to the data receiver; transmitting, by the data receiver, an ACK packet for informing the data transmitter of the confirmation of the delivery of the received data packet; detecting the loss of the transmitted data packet, by the data transmitter, based on the content of the ACK packet; retransmitting the data packet, which has been detected to be lost, by the data transmitter, thereby performing error control of data packets; and performing transmission flow control by a transmission window, during error control in its period between the detection of the loss of a data packet and the confirmation of the delivery of the data packet by the data transmitter, wherein

the data transmitter functions to release, from the transmission window, a closed window to an extent corresponding to the total size of data, for which delivery confirmation has been newly made by ACK packets received from the data receiver during the error control, and consequently renders the released window transmittable.

11. (Previously Presented) A computer readable recording medium comprising, recorded thereon, a program which is used in executing the data communication method according to claim 6 by means of a computer.

12. (Previously Presented) A computer readable recording medium comprising, recorded thereon, a program which is used in executing the data communication method according to claim 7 by means of a computer.

13. (Previously Presented) A computer readable recording medium comprising, recorded thereon, a program which is used in executing the data communication method according to claim 8 by means of a computer.

14. (Previously Presented) A computer readable recording medium comprising, recorded thereon, a program which is used in executing the data communication method according to claim 9 by means of a computer.

15. (Previously Presented) A computer readable recording medium comprising, recorded thereon, a program which is used in executing the data communication method according to claim 10 by means of a computer.